

REMARKS

Applicant has reviewed and considered the Office Action dated November 18, 2003, and the documents cited therewith.

Claim 1 is amended, no claims are canceled, and no claims are added; as a result, claims 1-26 remain pending in this application. Claim 1 is amended to more clearly define the claimed subject matter. It is believed that no new matter is entered and that support for the amendment appears in various portions of the specification, including, for example, Figs. 3C, 3D, 7 and page 9, lines 3-23, page 24, lines 19-25 and page 25, lines 1-10.

INTERVIEW SUMMARY

Applicant gratefully acknowledges the telephone discussion with Examiner Cheu, Examiner Le and Applicant's attorney, David W. Black, on April 9, 2004. Applicant's attorney raised the merits of the subject matter of claim 1 over the cited documents. Applicant's attorney expressed disagreement with the Examiner's assertion that the subject matter of Baselt (1997) is inherently capable of exhibiting a resonant frequency shift under ambient conditions. It appears that the Examiner has not satisfied the burden of proof imposed by an assertion of inherency, pursuant to M.P.E.P. § 2112. No agreement was reached.

The Examiner is invited to telephone Applicant's attorney (612-373-6911) to facilitate prosecution of this application. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

§102 Rejection of the Claims

Claims 1, 4-12, 14-19, 21 and 25 were rejected under 35 U.S.C. § 102(b) as being anticipated by Baselt et al. (Proceedings of the IEEE 1997 85:672-680, hereinafter "Baselt 1997"). Notwithstanding the amendment of claim 1, Applicant respectfully traverses the rejection and submits that *prima facie* anticipation has not been established.

To anticipate, M.P.E.P. § 2131 provides that the identical invention must be shown in as complete detail as is contained in the claims. Here, Applicant submits that Baselt 1997 does not appear to teach all recited elements in as complete detail. For example, Applicant is unable to find, in Baselt 1997, a teaching of an output corresponding to a resonant frequency shift.

Instead, Applicant submits that Baselt 1997 refers to an "oscillating field gradient that exerts force on . . . magnetized particles" (page 674). Furthermore, the Examiner appears to be in agreement in stating, at page 6 of the Office Action, that "Baselt et al. fail to teach measuring resonance frequency shifts in a cantilever to determine the analyte in a sample."

Baselt 1997 also refers to "forces produced by micron-sized magnetic particles to pull on antibody-antigen bonds" (*Abstract*). In contrast to the use of magnetic particles, the claimed subject matter refers to, . . . resonates under ambient conditions at a frequency based on the mass of said analyte, as recited in claim 1. Indeed, Applicant submits that Baselt 1997 does not allow for resonant frequency shift under ambient conditions but rather, refers to static forces from an external field operating on magnetic particles.

The Office Action makes a conclusory assertion that "it is inherent that the structure taught by Baselt et al. could resonate under the similar condition. Therefore no patentable weight is given." Applicant respectfully traverses and submits that the record does not support an inherency argument. To rely on inherency, M.P.E.P. § 2112 states that the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. To meet this burden, the Examiner must set forth objective evidence or cogent technical reasoning to support the conclusion of inherency. Here, Applicant is unable to discern the requisite objective evidence or cogent reasoning sufficient to meet the Examiner's burden. Accordingly, Applicant submits that reliance on inherency is improper.

The Office Action states that a portion of the claim "is considered intended use because applicant is not claiming a resonant structure under ambient condition, rather applicant claims a structure capable of resonating under the ambient condition." Applicant, on the other hand, does not find the phrase "capable of" in pending claim 1. The rejection appears to be based, at least in part, on an improper reading of the claim.

Applicant traverses the Office Action characterization of a claim 1 phrase as "functional intended use." Pursuant to M.P.E.P. § 2173.05(g), there is nothing inherently wrong with defining some part of an invention in functional terms and functional language does not, in and of itself, render a claim improper. Nevertheless, Applicant submits that the phrase provides definite boundaries for the recited subject matter, and is therefore, believed to be proper. To the

extent that such a disclosure or teaching does not appear in Baselt 1997, Applicant respectfully submits that the pending claim is in condition for allowance.

Pursuant to M.P.E.P. § 2114, even if the prior art device performs all the functions recited in the claim, the prior art cannot anticipate the claim if there is any structural difference. Here, it appears that Baselt 1997 does not perform all the functions or include all elements recited in claim 1. Indeed, page 6 of the Office Action includes an express acknowledgement of at least one shortcoming of Baselt 1997.

Accordingly, Applicant submits that claims 1, 4-12, 14-19, 21 and 25 are in condition for allowance. Reconsideration and allowance of claims 1, 4-12, 14-19, 21 and 25 are respectfully requested.

As to claim 10 and 11, the Office Action refers to "intended use . . . [and] is not given patentable weight for considerations." Applicant respectfully traverses and submits that the language of the pending claims is proper for at least the reasons noted above. In addition, the dependent claims each recite additional elements beyond that of the independent claim from which each depends. Consequently, Applicant respectfully submits that the claims are in condition for allowance.

Reconsideration and allowance of claims 10 and 11 are respectfully requested.

§103 Rejection of the Claims

Claim 20 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Baselt et al. in view of Lee et al. (U.S. 5,807,758).

Applicant respectfully traverses the rejection and submits that *prima facie* obviousness has not been established. In addition to the reasons noted above, Applicant submits that the proposed combination of Baselt 1997 and Lee is improper because at least one of Baselt 1997 and Lee teaches away from the claimed subject matter. For example, Lee (*column 3, lines 1-3*) refers to "detect[ing a] target species using a transduction mechanism that is independent of the mass of the species" In contrast, the claimed subject matter refers to . . . based on the mass of said analyte, as recited in claim 1. Thus, it appears that Lee teaches away from the claimed subject matter and is therefore not properly combinable in the manner proposed.

Reconsideration and allowance of claim 20 is respectfully requested.

Claim 26 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Baselt et al. Applicant respectfully traverses the rejection and submits that *prima facie* obviousness has not been established. For at least the reasons noted above, Applicant respectfully submits that the proposed combination of Baselt 1997 with the knowledge of one of ordinary skill in the art does not provide a teaching or suggestion of all recited elements.

Reconsideration and allowance of claim 26 is respectfully requested.

Allowable Subject Matter

Claims 2, 3, 13 and 22-24 were indicated to be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. § 112, second paragraph, set forth in the Office Action.

Applicant respectfully submits that the pending claims are in condition for allowance without need of amendment for at least the reasons presented above.

Reconsideration and allowance of claims 2, 3, 13 and 22-24 is respectfully requested.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111 AND INTERVIEW SUMMARY

Serial Number: 09/712795

Filing Date: November 14, 2000

Title: HIGH SENSITIVITY MECHANICAL RESONANT SENSOR

Page 15

Dkt: 1153.010US1

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6911 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

HAROLD G. CRAIGHEAD ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

P.O. Box 2938

Minneapolis, MN 55402

(612) 373-6911

Date

April 19, 2004

By

David W Black

David W Black

Reg. No. 42,331

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 19th day of April, 2004.

Name

Dawn M. Poole

Signature

Dawn M. Poole